

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* EUGENE C. FISCHER, DALE A. SOWELL,  
JOHN P. WEHRLE, and ALBERT G. HOLDER

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Appeal No. 2002-0639  
Application No. 09/372,602

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ON BRIEF

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Before KRATZ, TIMM, and POTEATE, *Administrative Patent Judges*.  
TIMM, *Administrative Patent Judge*.

***DECISION ON APPEAL***

This appeal involves claims 1-6, 9-21, 23-28, and 34-41, which are all the claims currently pending. We have jurisdiction under 35 U.S.C. § 134.

***THE CLAIMED INVENTION***

Appellants' invention relates to visual-tactile signage (Title). According to Appellants, the invention affords continued visibility following illumination with visible light, as well as improved visibility under variously illuminated or low-light conditions due to the incorporation of reflective, retroreflective and luminescent materials (specification at 9, l. 14 to 10, l. 2).

Claims 10 and 39 are illustrative:

10. A visually enhanced article comprising a particulate-containing matrix, wherein:

said particulate-containing matrix includes a resinous matrix material, a plurality of retroreflective spheres, a plurality of photorefective pigments and a plurality of photoluminescent pigments;

said resinous matrix material contains said retroreflective spheres, said photorefective pigments and said photoluminescent pigments;

said resinous matrix material has a matrix surface portion which is exposable to light from an exterior source;

said retroreflective spheres generally are disposed protrudingly at said matrix surface portion;

said photorefective pigments and said photoluminescent pigments generally are disposed beneath said matrix surface portion;

said particulate-containing matrix includes a plurality of matrix sections;

each said matrix section as a corresponding surface area of said matrix surface portion;

at least two said matrix sections differ in at least one characteristic pertaining to at least one of said retroreflective spheres, said reflective pigments and said luminescent pigments;

said at least one characteristic is selected from the group of characteristics consisting of color and concentration; and

said differing is visually appreciable so that at least two said matrix sections contrastingly define at least one communicative form.

39. A visually enhanced article as in claim 10, wherein said at least one communicative form includes at least one type of symbolism selected from the group consisting of symbol, figure, character, picture and arrow.

### ***THE EVIDENCE***

As evidence of unpatentability, the Examiner relies upon the following prior art references:

Bingham	4,763,985	Aug. 16, 1988	
Hedblom (Hedblom '221)	5,227,221		Jul. 13, 1993
Hedblom et al. (Hedblom '746)	5,683,746		Nov. 4, 1997
Ochi et al. (Ochi)	5,812,316		Sep. 22, 1998
Kozak et al. (Kozak)	5,873,187		Feb. 23, 1999
Anders	5,874,491		Feb. 23, 1999

### ***THE REJECTIONS***

The Examiner rejects the claims as follows:

1. Claims 1-3, 9-16, 18, 19, 23, 26, and 37 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Bingham.
2. Claims 1-5, 9-16, 18, 19, 23, and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bingham in view of Ochi.
3. Claims 1-3, 6, 9-16, 18-20, 23, 24, 26, 35, 36, 38, and 40 stand rejected under 35 U.S.C.

§ 103(a) as being unpatentable over Bingham in view of Hedblom ‘746.

4. Claims 21 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bingham in view of Hedblom ‘746 and further in view of Hedblom ‘221.

5. Claims 1-3, 9-19, 23, and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bingham in view of Anders.

6. Claims 1-3, 9-16, 18, 19, 23, and 26-28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bingham.

7. Claims 34 and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bingham in view of Kozak.

8. Claim 41 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Bingham in view of Hedblom ‘746 and further in view of Kozak.

### ***OPINION***

We affirm with respect to the rejection of claims 34 and 39 over Bingham in view of Kozak (Rejection #7 above) and extend that rejection to claims 1 and 10. We denominate our affirmance as involving a new ground of rejection pursuant to 37 CFR § 1.196(b)(2002). With respect to all the other rejections made by the Examiner, we reverse.

The major disagreement in this case is one of claim interpretation. During patent examination, claims are to be given their broadest reasonable interpretation. *In re Van Geuns*, 988 F.2d 1181, 1184, 26 USPQ2d 1057, 1059 (Fed. Cir. 1993). The words are generally given

their ordinary and accustomed meaning, unless it appears from the specification that they were used differently by the inventor. *In re Paulsen*, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994). Moreover, the words of the claim must be interpreted in the context in which they are used. The words must not be considered one in isolation from the others. *In re Geerdes*, 491 F.2d 1260, 1262-63, 180 USPQ 789, 791 (CCPA 1974).

The claims are all directed to devices or articles including a matrix layer. Within the matrix layer are retroreflective spheres, reflective pigments and luminescent pigments in a resinous matrix material. The dispute lies in how the language at the end of the independent claims regarding differences between two matrix regions is to be interpreted. All of the claims require that the matrix layer have a plurality of matrix regions. At least two of the matrix regions must differ in either the color or concentration of at least one of the retroreflective spheres, reflective pigments and luminescent pigments. Furthermore, the difference in color or concentration between the two matrix regions must be “visually appreciable so that at least two said matrix regions contrastingly define at least one communicative form.” This language requires that the differing matrix regions be large enough that the contrast between them communicate something. This is akin to the black letter on this paper communicating a letter against the white background of the paper.

After determining the meaning of the disputed words in the claim, we must determine what the prior art describes and make a comparison. Here, we concentrate on Bingham, as this reference is the anchor that holds each of the rejections together. Bingham describes a

retroreflective sheet containing microsphere-based retroreflective elements which may be used in retroreflective signs, fabrics, or transfer films (Bingham at 1, ll. 6-9). The microspheres protrude out of a base layer containing a binder material (resin matrix) and reflective nacreous pigment flakes (Bingham at 2, ll. 44-56; Fig. 2). A fluorescent pigment may be incorporated in the binder (Bingham at col. 6, ll. 19-20).

While Bingham suggests a matrix layer of the claimed composition, the claims further require a disposition of microspheres and/or pigments within matrix regions such that those matrix regions define a communicative form. The Examiner seizes upon the depiction of nacreous pigment flakes 18 in Figures 1 and 2 for the conclusion that Bingham teaches concentrating the flakes under the microspheres such that there is a concentration difference which forms “a visually appreciable communicative form of brighter light reflection.” (Answer at 4). The problem is that the claims require the different matrix regions to “contrastingly define at least one communicative form.” One must be able to visually see a difference between the two matrix regions in order for them to contrastingly define a communicative form. Here, the regions the Examiner relies upon are the size of a single microscopic sphere and a region between closely packed microscopic spheres. Microscopic areas, by definition, are not visually appreciable with the unaided eye. The Examiner has not persuaded us that the microscopic difference in pigment concentration is visually appreciable so that the two regions contrastingly define at least one communicative form.

Neither Ochi, the Hedblom references nor Anders, as applied by the Examiner, overcome the deficiency discussed above. Therefore, we conclude that the Examiner failed to establish a *prima facie* case of obviousness with regard to the rejections over these references as applied to claims 1-6, 9-21, 23-28, 35-38, and 40.

However, we come to a different conclusion with respect to Kozak as this reference does overcome the deficiency of Bingham. The Examiner used Kozak in combination with Bingham to reject claims 34 and 39.

We find that Bingham, as discussed above, is directed to retroreflective sheets containing retroreflective microspheres embedded in a binder containing reflective pigments and which may also contain fluorescent pigments (Bingham at col. 2, ll. 44-56 and 6, ll. 19-20). The sheet further comprises a transfer adhesive on its backside in accordance with the requirements of claim 1, upon which claim 34 depends (Bingham at col. 2, ll. 64-67). Bingham discloses arranging the microspheres onto a carrier by transfer techniques such as printing and screening (Bingham at col. 4, ll. 3-7), well known techniques for forming symbols and characters on substrates. For instance, the characters on this paper are formed by printing. While Bingham mostly focuses on using the end product retroreflective sheet on fabrics, Bingham also suggests its use in retroreflective signs (Bingham at col. 1, ll. 6-9). Bingham indicates that reflective and retroreflective sheeting and fabrics have been conventionally proposed as a means to provide greater visibility to pedestrians or cyclists traveling along streets or highways at nighttime (Bingham at col. 1, ll. 44-48).

We find that Kozak, like Bingham, is directed to forming articles which are more easily seen at night and in low light conditions when illuminated by headlights (Kozak at col. 1, ll. 13-18). Kozak, also like Bingham, achieves this objective by using retroreflective microspheres or beads (Kozak at col. 4, ll. 39-46). Kozak teaches arranging the retroreflective beads in patterns indicative of symbols or alphanumeric characters to provide effectively bright and clear indications of sign information (Kozak at 3, ll. 1-4 and 9, ll. 25-34). The sign may be adhesive backed (Kozak at col. 4, ll. 35-38).

We conclude that it would have been obvious to one of ordinary skill in the art to have arranged the microspheres of Bingham in patterns indicative of symbols or alphanumeric characters in order to communicate symbols or words in low light conditions as taught by Kozak.

Much of Appellants' argument with regard to the rejection of claims 34 and 39 over Bingham in view of Kozak focuses on the Examiner's conclusion that the particular shape of the communicative form carries no patentable weight (Brief at 8-9 and 27-33). We do not adopt the reasoning of the Examiner in this regard. Whether the shape carries patentable weight is not particularly relevant to the question of obviousness at hand. Claims 34 and 39 require that the communicative form be a type of symbolism selected from the group of symbol, figure, character, picture and arrow. Kozak provides evidence that it was known in the art to place retroreflective beads into the shape of symbols and characters on signs. Together Bingham and Kozak render such arrangements of beads on signs and fabrics obvious at the time the invention was made.



Appellants argue that Kozak does not teach or suggest the claimed “communicative form” whereby both the contrastingly defined “communicative form” and the surrounding area are both visibly enhanced” (Brief at 33). However, Appellants point to no specific claim language that requires that the surrounding area be visibly enhanced. We find no such limitation. Moreover, Kozak describes affixing the beads onto signs painted as is conventional in the art with reflective paint (Kozak at col. 9, l. 62 to col. 10, l. 11). As the background is covered with reflective paint, it is visibly enhanced.

Appellants also argue that Bingham and Kozak are not properly combinable references because “there must be motivation present within the references themselves to be combined in the manner proposed.” (Brief at 25). While it is true that a proper suggestion to combine may flow from the prior art references themselves, it is also true that the suggestion may also flow from the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. *See Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996). Here the suggestion flows naturally from the teachings of the references and from the knowledge of those of ordinary skill in the art. Bingham suggests the use of the sheet in signs. As acknowledged by Appellants, “[s]ignage, by definition, entails symbolism or conveys information.” (Brief at 31). At the time of the invention, it was also an ordinary everyday occurrence to see people walking down the street wearing fabrics with symbols and characters printed thereon meant to communicate. Kozak describes a way of making symbols and characters on signs brighter by placing the microspheres in the pattern of the

symbols or characters. Kozak, therefore, provides a suggestion to so place the microspheres of Bingham to communicate symbols and characters.

We affirm the decision of the Examiner to reject claims 34 and 39 under 35 U.S.C. § 103(a) over Bingham in view of Kozak. We also extend the rejection to claims 1 and 10, the claims from which claims 34 and 39 depend. It goes without saying, even though we will say it here, that a combination of prior art that renders dependent claims unpatentable must also necessarily render the claims they depend from unpatentable. Because our reasoning differs from that of the Examiner and we extend the rejection to other claims, we denominate our affirmance as involving a new ground of rejection. 37 CFR § 1.196(b)(2002).

While Kozak is also added to Bingham along with Hedblom '746 to reject claim 41, we conclude that the Examiner has failed to establish a *prima facie* case of obviousness with respect to this claim. Claim 41 is dependent on claim 40 which requires the presence of abrasive elements. The Examiner has failed to provide a convincing reason why one of ordinary skill in the art would have added the skid resistant particles of Hedblom's pavement markers to the sheet of Bingham. The sheet of Bingham is intended to be used in signs, fabrics, or transfer films (Bingham at col. 1, ll. 6-9). The Examiner has failed to establish that skidding is a problem associated with the signs, fabrics, or transfer films of Bingham.

### ***OTHER ISSUES***

In view of our analysis above, the Examiner should re-evaluate the prior art to determine if claims other than claims 1, 10, 34, and 39 should be rejected under 35 U.S.C. § 103(a) as unpatentable over Bingham in view of Kozak either alone or in combination with other prior art.

### ***CONCLUSION***

To summarize, the decision of the Examiner to reject claims 1-3, 9-16, 18, 19, 23, 26, and 37 under 35 U.S.C. § 102(b) and claims 2-6, 9, 11-21, 23-28, 35-38, 40, and 41 under 35 U.S.C. § 103(a) is reversed. We affirm the decision of the Examiner to reject claims 34 and 39 under 35 U.S.C. § 103(a) and extend the rejection to claims 1 and 10. We denominate our affirmance as involving a new ground of rejection pursuant to 37 CFR § 1.196(b)(2002). Further review of the claims in view of the prior art is required due to the nature of our affirmance.

In addition to affirming the Examiner's rejection of one or more claims, this decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides that "[a] new ground of rejection shall not be considered final for purposes of judicial review."

Regarding any affirmed rejection, 37 CFR § 1.197(b) provides:

(b) Appellants may file a single request for rehearing within two months from the date of the original decision . . . .

37 CFR § 1.196(b) also provides that the Appellants, ***WITHIN TWO MONTHS FROM THE DATE OF THE DECISION***, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

- (1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter considered by the examiner, in which event the application will be remanded to the examiner. . .
- (2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

Should the Appellants elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. § 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the Examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the Appellants elect prosecution before the Examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for rehearing thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

***AFFIRMED IN PART; 37 CFR § 1.196(b)***

PETER F. KRATZ  
Administrative Patent Judge

CATHERINE TIMM  
Administrative Patent Judge

LINDA R. POTEATE  
Administrative Patent Judge

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